

Soybean Residue Management Trial

Trial ID: 2018-SRM01 – R.M. of Roland

Objective: Quantify the agronomic effects of reduced tillage of oat stubble on a soybean test crop. A single coultter pass in the fall (minimum till) was compared to a 1 pass coultter, 1 pass field cultivator, and 1 pass coultter in the fall (conventional till).

TRIAL INFORMATION

Treatment	Minimum Till vs. Conventional Tillage
Rural Municipality	Roland
Previous Crop	Oats
Test Crop	Soybean
Soil Texture	Clay and Loam
Minimum Tillage	Fall - 1x Coultter
Conventional Tillage	Fall - 1x Coultter, 1x Field Cultivator, 1x Coultter
Seeding Equipment	Salford Disc Drill
Planting Date	May 4, 2018
Variety	S003-L3
Row Spacing	15"
Seeding Rate	200,000 seeds/ac
Harvest Date	September 4, 2018

PRECIPITATION†

	May	June	July	Aug
Rainfall	42	92	44	28
Normal	54	81	66	71

† Growing season precipitation (mm)

Soil Temperature and Plant Stand

	Average Soil temp at 5 cm*	Plant Stand @ V1
Conventional Till	12.4°C	109,000 plants/ac
Minimum Till	10.4°C	109,000 plants/ac

*Average hourly soil temperature at 5cm the day of planting (May 4)

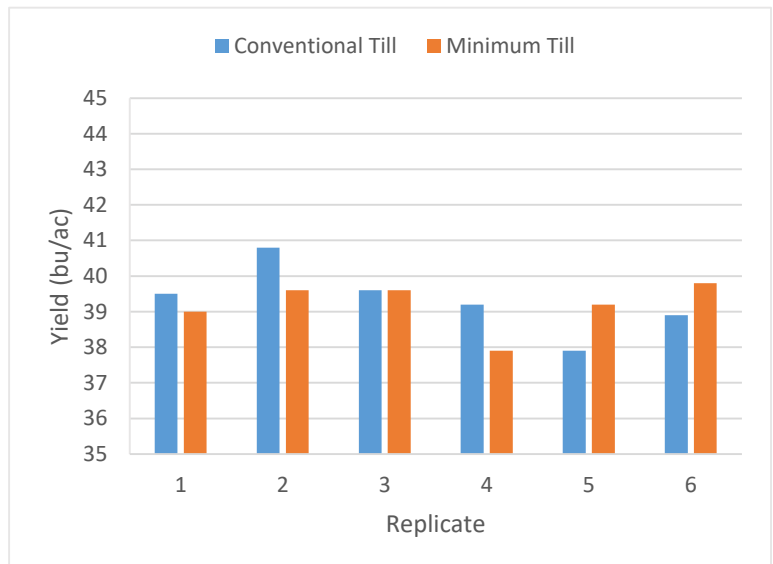
OVERALL YIELD

	Mean (bu/ac)
Conventional Till	39.3
Minimum Till	39.2
Yield Difference	0.1
P-Value	0.7734
CV	2.0%
Significance	No

NDVI FIELD IMAGE – AUGUST 11, 2018



STRIP YIELD



Summary: There was no significant yield difference between a single pass of a coultter (minimum till) compared to a single pass of a coultter, followed by a single pass of a field cultivator and another pass of a coultter (conventional till) in oat stubble. The average soil temperature at 5 cm the day of planting was 2°C warmer for conventional till compared to no-till, and there was no difference in plant stand at growth stage V1. Rainfall was below average for the growing season, with the exception of June which was above normal.